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*Ceratophysella michalinae*, a new species from Poland  
(Collembola: Hypogastruridae)

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ABSTRACT. *Ceratophysella michalinae* n. sp. is described from Poland (Tatra Mountains, Carpathians).

Key words: entomology, taxonomy, new species, Poland, Collembola, Hypogastruridae, *Ceratophysella*.

During faunistic investigations in the Tatra Mountains (Carpathians, S Poland), sponsored by the University of Wrocław (grant no. 2020/W/IZ/2004), a new species of the genus *Ceratophysella* BÖRNER, 1932 was found. Its description is given below.

***Ceratophysella michalinae* n. sp.**

ETYMOLOGY

Dedicated to my daughter Michalina.

DIAGNOSIS

This species is distinguished from other members of the *denticulata*-group by the following combination of characters: dorsal part of the body greyish-brown, ventral part white, anal spines pale, eversible sac between antennal segments III-IV absent, antennal segment IV with usually 6 cylindrical sensilla and ca. 10 slightly modified sensilla in ventral file, 8+8 ocelli, labial papilla C absent, chaetotaxy with  $a_1$  on abdominal tergum IV and  $a'_2$  on abdominal terga I-III

present and  $a_2$  on abdominal tergum V absent, body setae thick with light external layer, furca shortened with very delicate cuticular skeleton, 4-7 setae on dens and small mucro with low lateral lamella.

*Ceratophysella michalinae* n. sp. resembles species with reduced number of dental setae such as *C. czukczorum* MARTYNOVA & BONDARENKO, 1978 and related forms (see FJELLBERG 1985, BABENKO & al. 1994), *C. densornata* MAYNARD, 1951, *C. engeli* ELLIS, 1968, *C. kapoviensis* BABENKO, 1994, *C. kutyrevae* BABENKO, 1994, *C. norensis* (CASSAGNAU, 1965), *C. orizabae* YOSII, 1962, *C. scotti* YOSII, 1962, *C. sedecimocellata* YOSII, 1962, *C. succinea* GISIN, 1949, *C. varians* STACH, 1967 and *C. vargovychi* SKARŻYŃSKI & al., 2002, however characteristic body colour, arrangement of antennal sensilla, structure of labium and general appearance place this species near *C. succinea*. Nevertheless it can be easily separated from this species by the following set of characters: eversible sac between antennal segments III-IV absent (v. present), dorsal body setae thick with light external layer (v. slightly thickened without light external layer), 4-7 dental setae (v. 6), furca shortened, ratio: dens + mucro/ inner edge of claws III = ca. 1.5 (v. normal, ratio: dens + mucro/claws III = ca. 2), mucro small with low lamella (v. normal), anal spines of normal thickness, pale (v. thickened, honey-yellow).

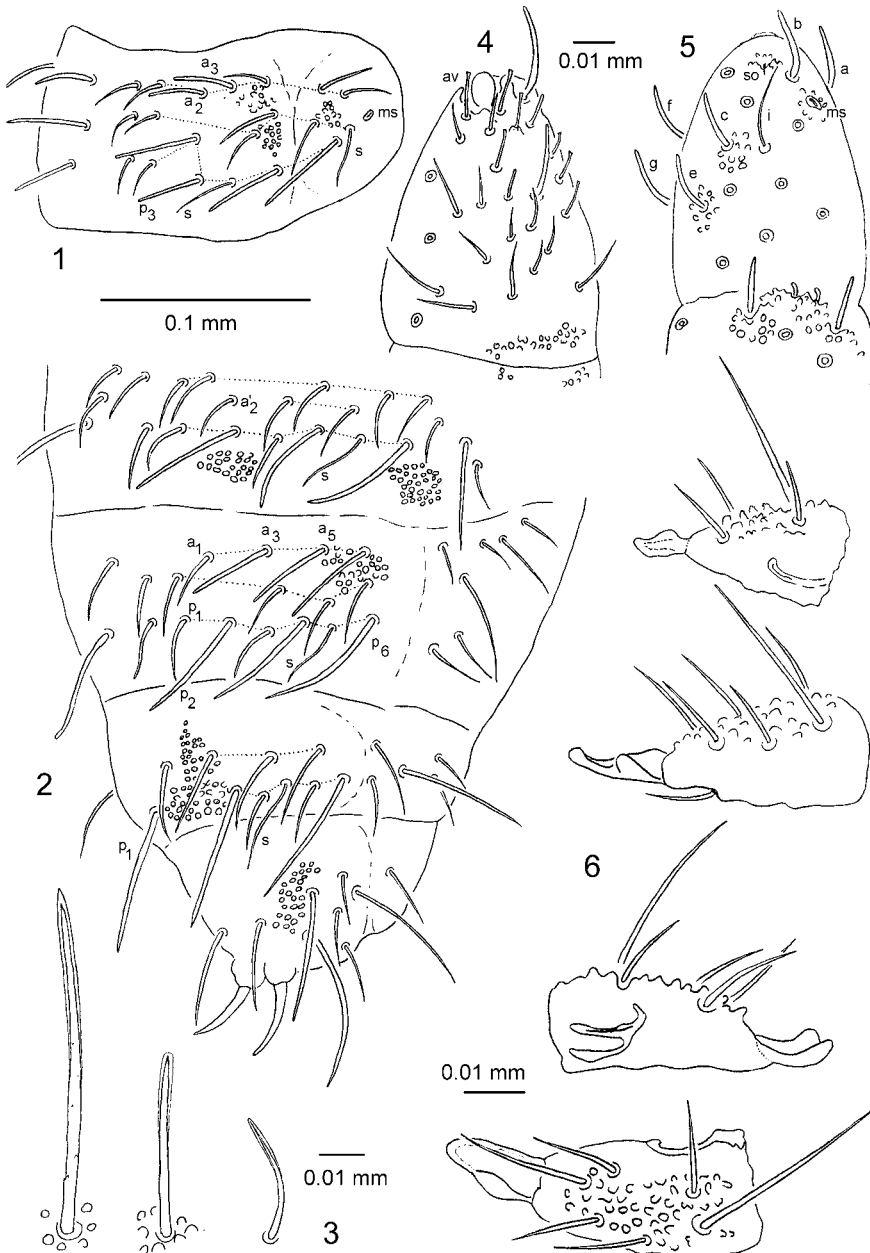
#### DESCRIPTION

Body length of males 0.9-1.2 mm, females 1-1.3 mm. Antennae, dorsal part of the body and legs greyish-brown, ventral part of the body white, eyes fields black, anal spines pale. Granulation coarse and uniform, usually 8-10 granules between setae  $p_1$  on abdominal tergum V (Figs 1-2).

Dorsal chaetotaxy of thorax and abdomen as in Figs. 1, 2, chaetotaxy of head typical of the genus. Microchaetae and macrochaetae of medium size, thick, with light external layer, sometimes slightly serrated (Fig. 3). Body sensilla (s) fine and smooth. Setae  $a_2$  and  $a_3$  on thoracic tergum II as mesochaetae of usually equal length. Setae  $a'_2$  on abdominal terga I-III present, on abdominal tergum V absent. Setae  $a_1$  and  $p_3$  present, setae  $a_4$  and  $p_7$  absent on abdominal tergum IV. Setae  $p_1$  and  $p_2$  on abdominal tergum IV microchaetae and macrochaetae, respectively. Three axial setae on abdominal tergum IV are strongly diverging (Fig. 2). Subcoxae I, II, III with 1, 3, 3 setae, respectively. Microsensillum (ms) on thoracic tergum II present.

Antennal segment IV with simple (rarely trilobed) apical vesicle (av), subapical organite (so), microsensillum (ms), 6 (rarely 7) cylindrical sensilla (d absent) (Fig. 5), about 10 thin, slightly curved and blunt-tipped sensilla in ventral file (Fig. 4). Antennal III-organ with two long (lateral) and two short (internal) curved sensilla (Fig. 5). Microsensillum on antennal segment III present. Eversible sac between antennal segments III-IV absent. Antennal segment I with 7 setae.

Ocelli 8+8. Postantennal organ typical of the genus, twice larger than single ocellus, with 4 lobes of which the anterior pair is distinctly larger than the posterior. Accessory boss present.



1-6. *Ceratophysella michalinae* n. sp.: 1 – chaetotaxy of thoracic tergum II, 2 – chaetotaxy of abdominal terga III-VI, 3 – macrochaeta p<sub>1</sub> on abdominal tergum V, macrochaeta p<sub>2</sub> on thoracic tergum II, microchaeta a<sub>1</sub> on thoracic tergum II (from left to right), 4 – ventral side of antennal segment IV, 5 – dorsal side of antennal segments III-IV, 6 – dens and mucro (variants). Abbreviations in text

Labrum with 5, 5, 4 setae and 4 prelabrals. Head of maxilla of the *C. denticulata*-type, lamella 1 distinctly broadened at the tip with long filaments (see SKARŻYŃSKI 2000). Outer lobe with 1 sublobal hair. Labium of the *succinea*-type with papilla C absent (see FJELLBERG 1999).

Tibiotarsi I, II, III with 19, 19, 18 setae respectively, clavate setae absent. Claws with inner tooth and pair of indistinct lateral teeth. Empodial appendage with broad basal lamella and apical filament reaching inner tooth.

Ventral tube with 4+4 setae.

Furca shortened (ratio: dens + mucro/inner edge of claws III = ca. 1.5), cuticular skeleton of furca very delicate, sometimes invisible. Dens with 4-7 unmodified setae, usually 5-6 (Fig. 6). Long basal macrochaeta reaching base of mucro. Mucro small with low lateral lamella (Fig. 6). Retinaculum with 4+4 teeth.

Anal spines pale, thin and curved, situated on high basal papillae (Fig. 2). Ratio: anal spines/inner edge of claws III = ca. 1.1.

Epitokous individuals have shortened setae, anal spines, claws, mucro and maxillary lamellae.

#### MATERIAL EXAMINED

Holotype: female on slide, moss on shaded calcareous rocks in alpine zone (ca. 1900 m a. s. l.), NW slope of the Ciemniak (Tatra Mountains, Carpathians, S Poland), 19. VIII. 2004, leg. D. SKARŻYŃSKI; paratypes: 10 females, 8 males on slides, same data as holotype; other material: many specimens on slides and in alcohol, two localities: same data as holotype and moss on calcareous rocks at the entrance to the cave Mylna, ca. 1100 m a. s. l. (Tatra Mountains, Carpathians, S Poland), 18. VI. 2004, leg. D. SKARŻYŃSKI (preserved at the Department of Biodiversity and Evolutionary Taxonomy, Wrocław University, Poland).

#### REMARKS

Some scores of specimens collected in June 2004 were cultured for 3 months in laboratory conditions. They reproduced normally, eggs and juvenile specimens were seen during the whole breeding period. Morphology of cultured specimens was stable and consistent with the description. It is worth to say that they did not jump in the culture vessel. It shows that the reduction of furca of *C. michalinae* n. sp. is of structural-functional character.

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